

Marshall University Marshall Digital Scholar

Management Faculty Research

Management, Marketing and MIS

4-1-2004

Ethical Considerations in the Marketing of E-Health Products

Ashish Chandra

Andrew Sikula Sr.

Marshall University, sikula@marshall.edu

David P. Paul III

Follow this and additional works at: http://mds.marshall.edu/mgmt_faculty



Part of the [Business Law, Public Responsibility, and Ethics Commons](#), and the [Marketing Commons](#)

Recommended Citation

Chandra, A., Sikula Sr., A., Paul III, D. "Ethical considerations in the marketing of e-health products." *Journal Of Medical Marketing*, 4.2, (2004): 110-118.

This Article is brought to you for free and open access by the Management, Marketing and MIS at Marshall Digital Scholar. It has been accepted for inclusion in Management Faculty Research by an authorized administrator of Marshall Digital Scholar. For more information, please contact zhangj@marshall.edu.

Ethical considerations in the marketing of e-health products

Ashish Chandra, Andrew Sikula, Sr., David P. Paul, III

Abstract The internet is now recognised as a growing international phenomenon. All kinds of products and services are being marketed over the internet to consumers throughout the world because country borders no longer restrict conducting business in the international marketplace. Though there are several advantages of online commerce, this form of marketing does raise ethical dilemmas, particularly when it comes to marketing healthcare products and information to consumers internationally. This paper examines some of these potential ethical concerns and provides some strategies for consumers and online pharmaceutical marketers to handle these dilemmas more appropriately.

INTRODUCTION

New models of doing business blossomed in the 1990s with the rapid growth of the internet¹ and online trade has changed the way many businesses operate.² Many businesses now feel compelled to have some form of internet presence (eg ordering, order tracking, e-mail, a business website), whether or not they actively use these tools to conduct business.³ This 'internet mania' is not surprising when one considers that 39 per cent of consumers logged onto the internet daily in 2002, up 10 per cent over the previous year.⁴ Industries once widely considered as being immune from the explosion in e-commerce are now quite rapidly incorporating the internet in their business operations, including healthcare businesses. For example, rapid technological advancements in the field of telecommunications are now also actively playing a significant role in defining pharmaceutical and alternative health businesses. The changes we have already seen and will continue to see, are not only in online pharmacy sales volume of traditional western medicine, but also in the number of different types of alternative medicinal approaches and products that are now being made available directly to consumers via the internet. Alternative medicines, such as herbal products and homeopathic products, are not just a passing trend in the US economy anymore. They are quite extensively and aggressively being marketed via the internet.⁵

E-health refers to the convergence of various technologies such as the internet, computer telephony/interactive voice response, wireless communications, plus direct access to healthcare providers, healthcare management, healthcare education (perhaps via telemedicine) and wellness information.⁶ Although many technologies are and will continue to be involved in the development of e-health, the internet clearly has and will for the foreseeable future be the primary driver for the growth in this field of healthcare, according to both clinicians⁷ and consultants.⁸ Healthcare providers and consumers are more and more turning toward the

internet,⁹ which appears to have significantly enhanced the 'reach', ie the number of unduplicated audience members who receive the promoted message, of many businesses, including healthcare. Between 2000 and 2001, the number of Americans regularly searching online for health information rose from 70 million¹⁰ to almost 100 million.¹¹ Internet-based healthcare will be worth US\$370 billion by 2004.¹²

The internet has a tremendous potential of being of benefit to the healthcare consumer and provider in the following ways:

- By providing vast amounts of information regarding healthcare products and services in a very convenient and rapid manner.¹³
- By making available the latest healthcare research in a more timely manner as compared with its appearing in non-electronic print.¹⁴
- By providing additional value-added services including cost savings for direct online purchases by consumers.¹⁵
- By providing therapy (or e-therapy) to consumers via the internet at the consumer's convenience.¹⁶
- By providing both real-time and delayed consultation opportunities to practitioners and patients in remote locations where healthcare practitioners, especially specialists, may be few.¹⁷

While approximately 55 per cent of Americans view the internet as a reliable source of healthcare information, compared with just under 30 per cent for newspapers and 28 per cent for television,¹⁸ it has been estimated that over 50 per cent of the healthcare-related information on the internet is not attributable to any authority and 7 per cent of the healthcare-related information provided on the internet is false.¹⁹ Despite the lack of variability of health-related information on the internet, however, a Pew internet and American Life Project survey estimated that 55 per cent of Americans with internet access have used the internet to gain health information.²⁰ The information technology revolution, as evidenced by the increasingly widespread use of the internet, promises to cause a shift in the US healthcare system away from the traditional delivery model.²¹ Unfortunately, despite the potential advantages of this shift for both the healthcare consumer and provider and the apparent widespread use by Americans of this approach for the gathering of healthcare information, the use of the internet may involve significant ethical concerns. Some of these are discussed in the next section.

POTENTIAL ETHICAL DILEMMAS

Most basic to the continuing development of e-health is trust by all participants in the process. Unfortunately, the security, use and distribution of patient data over the internet are significant problems.²² Many patients fear that their privacy will not be respected and their health

information may be used to hurt them.^{23,24} For example, a survey conducted by CyberDialogue showed that 75 per cent of individuals seeking health information on the internet were concerned that the sites where they registered would share personal information with a third party without their permission.²⁵ A Harris Interactive study found that 58 per cent of respondents lacked confidence in healthcare-related websites ability to protect personal information.²⁶ There have been numerous published accounts of confidential health information being shared with unauthorised parties due to e-mail snafus.²⁷

A growing sense of mistrust regarding healthcare websites actual content fuels the development of internet healthcare ethical codes and standards.^{28,29} There are at least three content-related concerns. First, all who rely on the internet for healthcare information must be able to trust the reliability of the informational content obtained. Unfortunately, a survey conducted by Harris Interactive showed that consumers have a relatively low level of trust in websites sponsored by health insurers, hospitals and health plans.³⁰ The same survey however, indicated that most consumers would feel more confident in a healthcare website which contained some kind of seal of approval or other indication of accreditation. Secondly, huge amounts and variety of content increase the possibility of errors and/or misinterpretation. Reliable, high quality content which is neither deceptive nor misleading is mandatory if the e-health industry is to gain users trust.³¹ Finally, as more and more people access the internet seeking healthcare-related information, websites may be tempted to track these individual web preferences, perhaps without their knowledge. Two techniques, one old and the other new, should be mentioned here. 'Cookies' have been used for this purpose for years to track individual internet movements by recording and reporting various websites visited. A newer approach however, called 'spyware' has recently become available. Spyware inserts software into others computer software which allows 'carefully targeted advertising'.³² Patients may well be concerned that such tracking methods used to craft advertisements to them could also be used to track and collect other personal health information. Also, patients may feel that any healthcare information they obtain from such websites is tainted by commercial motives,³³ leading to a further erosion of patient trust.

Complaints about biased website materials and lax confidentiality have prompted internet healthcare participants to work with the healthcare community to develop both standards and ethical codes to build public confidence in the system.³⁴ Of course, self-regulatory codes of ethics are often a tactical defence against legislative action by governments,³⁵ but if done properly (eg addressing all participant ethical concerns), can be quite effective and useful. Self-regulation may even be the preferred answer since legal control may not be practical. If legislation does become enacted, organisations intent on continuing the prohibited practices can easily move the website to another country and continue 'business as usual'.³⁶ Thus, the healthcare ethics movement prefers a self-regulatory approach to protecting privacy and building trust rather than a regulatory one.³⁷

There are several ethical dilemmas pertaining to promoting pharmaceutical and other healthcare products over the internet of which the consumer as well as healthcare professionals

should be aware. Transactions over a medium such as the internet, where transactions are no longer any semblance of face-to-face, but instead are completely anonymous, may well 'reduce informal social controls that restrict fraud and may provide opportunities for product misrepresentation'.³⁸ Consumers should be concerned because they now have the ability to access healthcare information independently of healthcare practitioners and with this independent ability comes the associated requirement that consumers must independently evaluate the healthcare information obtained.

Similarly, healthcare professionals should be concerned because they are responsible for consumer health and wellness. Some of the more serious ethical concerns are discussed below.

Placement of unproven research on the Web

Healthcare research is constantly being conducted all over the world. Before the results of these research activities become a widely acceptable reality and a viable product or protocol for treating disease, research studies need to be published in reputable, peer-reviewed publications. These publications need then to be widely circulated, mostly to the professional community, so that the research results can be replicated by other physicians and scientists. Once the results have been independently replicated by other researchers, they may be evaluated and possibly accepted by the healthcare community and eventually utilised for the treatment of patients. The internet however, provides a new avenue for researchers to publish their research, an avenue which requires neither peer review nor replication. The consumer needs to be aware that the information provided on many of these healthcare internet sites may not be in their best interest, as the research placed on them may be providing only one researcher's opinion/study in an attempt to promote oneself as a 'trend setter'.^{39,40} The average consumer is not qualified to determine the difference between 'legitimate' scientific research and 'questionable' scientific research and the Food and Drug Administration is concerned that misleading or unbalanced promotional information may harm patients.⁴¹

Information on alternate medical therapy

Alternative forms of medication and treatment are available and practised worldwide, but alternative medicine is more prevalent and most readily accepted by consumers in countries other than the USA.⁴² In the USA, alternative medical products and treatments have gained greater acceptance and demand for them has increased substantially over the past decade.⁴³⁻⁴⁵ This increased interest by consumers in alternative medicine may be attributed in large part to the internet. But, this increased consumer interest also creates a major ethical dilemma for health professionals. Most consumers do not know that alternative health products are often regulated/classified as 'food' products. Food products do not go through the rigorous clinical trials that traditional health products do. Hence, it is much easier for them to obtain marketing clearance. In fact, many alternative health products are not even approved as 'food' products but

may be marketed directly to consumers as 'natural' products. Many such 'natural' products can have serious adverse interactions with various prescription drugs. Health professionals may advise against the use of various so-called 'natural' products when used in conjunction with traditional therapies as they become aware of possible negative drug interactions due to the simultaneous use of these different types of products. Many alternative products, however, which are not available in the USA, can be acquired by the consumer from a foreign country via online marketers. The dangerous part is that there may be no research available for the consumer or even the health professional to make a calculated judgment regarding the potential hazards of these product combinations.

Quality and cost issues

Given the availability of pharmaceutical products over the Web, serious concerns have been raised regarding the quality of such products. The pharmaceutical industry is one of the most lucrative industries in the world economy,⁴⁶ and many companies want a piece of that lucrative pie. Simply producing drugs is much cheaper without doing the research and development, which are involved in the creation of these products. In 2001, the pharmaceutical industry as a whole spent US\$30 billion on research and development,^{47,48} with the average cost per drug between US\$400 and US\$800 million.^{49,50} By definition, foreign pharmaceutical product manufacturers are not bound by the stringent policies of the US Food and Drug Administration and many countries also do not recognise the patent protection of US products. This opens a new marketing avenue for foreign-based companies. Some foreign companies take advantage of the lack of universal patent protection laws and manufacture their own version of popular brand-name products. Since these companies have not spent a lot of money on conducting research and development, they are able to bring products to the consumer at a significantly lower total cost compared with brand-name products. These costs are cut even further when the pharmaceutical products are made available directly to consumers over the internet via online companies, because of the resulting lower advertising and distribution costs. The availability of these products at a potentially much cheaper price than would be charged by traditional domestic distribution channels has at times created a rift between consumers, health professionals and retailers. Some may believe that health professionals are acting unethically when they suggest that the consumer should purchase pharmaceutical products in the local retail market rather than buying them over the internet. It may well be the case however, that the health professional is actually more concerned about the consumer and more concerned about the quality of the product than the cost of the product.

Similar drug names

One of the major problems that the healthcare industry has started to encounter over recent years is the availability of pharmaceutical products that have names which are quite similar, but they are intended to treat different health conditions. The major unethical situation that the internet

can pose is that unethical companies may market their products using names similar to popular brand-name products. Consumers are often not aware of the correct spelling of a brand-name product; they are only aware of how the drug name is pronounced or sounds. This potential problem makes customers vulnerable to the unethical marketing practices of questionable online pharmaceutical product marketers. Consumers may risk losing not only their money, but also their health and even their lives.

Litigation problems

If there is a serious adverse event that is a direct result of unethical marketing practices of online pharmaceutical companies, which are based in a foreign country, it will be extremely difficult for a consumer to file a lawsuit against the perpetrator. The internet is so new that many countries have very few laws that regulate this industry. Unethical online pharmaceutical marketers may take advantage of this shortcoming and unsuspecting consumers. In some instances, it may even be hard for brand-name pharmaceutical product manufacturers to win a lawsuit against unethical marketers and manufacturers and prevent them from supplying questionable products directly to consumers. The advent of internet technology has been so rapid that legal systems governing the trade of goods and services in the domestic and the international markets have not been able to keep abreast of potential problems. Therefore, online pharmacies should be aware of the fact that they will soon be seeing some changes in legal systems that may affect their business operations.⁵¹ Whether these changes will help or harm the success of online pharmacies can only be determined in the future.

Language concerns

The vast majority of websites worldwide are written in English. The English that is spoken and written in different parts of the world however, varies significantly. There may be several ethical online pharmaceutical marketers that provide information to consumers in English that is only locally understandable. This may be understood in a different way, by consumers in different parts of the world, who also will have access to the websites of ethical marketers. Suddenly, an unintentional, unethical dilemma may be generated to which consumers become exposed. Hence, it is advisable that marketers use the most basic and simple English, which can cause the least amount of cross-cultural confusion.

Believability of the information

One of the most dangerous situations being caused by the internet, particularly as it relates to healthcare, deals with information believability and acceptability by consumers. Consumers often tend to believe what they perceive is in their best interest. Sometimes the information provided by the health professional to the patient may not be what the patient desires to hear, but it is accurate. Under such circumstances, a consumer may seek alternate sources of information

to obtain a more desirable answer. Unfortunately, there are several marketers who are planning and hoping for this consumer shortcoming. Marketers may place highly desirable information on the internet and then hope that consumers will purchase the products which are strategically posted on the website. There are several online alternative product marketers who are using such strategy. At times, one wonders whether there is any disease state that some of these online marketers cannot treat or will not exploit.

Consumer education regarding scientific information

Healthcare professionals insist that patients lack sufficient education and training in pharmacology and therapeutics to adequately understand much of the healthcare information made available to them, let alone its implications.⁵² For example, about one-third of consumers feel that the product information provided in direct-to-consumer (DTC) advertisements for prescription pharmaceutical products is too difficult to understand,⁵³ and only one-third of consumers even claim to read all or most of the brief summary, or the detailed information provided in DTC ads.⁵⁴ Thus, the argument can certainly be made that providing health information and/or products directly to consumers over the internet could be extremely detrimental to the consumer's wellness and also to his/her faith and belief in the healthcare system. It could also ignite a hypochondriac .re in consumers, as they may start believing that they suffer from each and every side effect related to product use as mentioned in the website. While this type of problem could also occur when a patient is prescribed and is taking a prescription drug, it is much less likely to occur, for two reasons. First, with prescription drugs, package inserts and/or information sheets are provided to consumers at the pharmacy or doctor's office, which might well not occur with an online purchase. Secondly, with a face-to-face transaction, a healthcare professional is always available to address any questions or concerns expressed by a patient. With the consumer purchasing healthcare products via the internet, there could be no possibility of a consultation between the consumer and a healthcare professional before the product purchase decision is made. Potentially, this lack of consultation opportunity with internet purchases could affect the consumer purchasing decision regarding legitimate products.

Lack of accompanying documentation

The online pharmacies based in international countries are not obligated to provide documentation, such as patient package inserts, to consumers. In an investigative study by Fischman and Melton, several pharmaceutical products were acquired from online pharmacies.⁵⁵ Many of these products were shipped from foreign countries, including the UK, Spain and Thailand. Some products, which were shipped from some foreign countries, came with no documentation and also in mislabelled envelopes. This raises concerns regarding the ethical standards of some online pharmacies.

SUMMARY GUIDELINES FOR ETHICAL ONLINE HEALTHCARE MARKETERS

The following is a list of some steps that ethical online marketers can take in order to reduce consumer concerns regarding the reliability of such organisations.

- Provide real names and the physical address/location for online pharmacies and other healthcare companies. Aliases for names and post office addresses may tend to raise red flags regarding the legitimacy of an organisation.
- Provide the 'technical' information in layman terms. Use appropriate word processing software to determine the desired readability needed to understand the information. One should keep in mind that the recommended reading level for healthcare consumers is fifth-to-seventh grade.⁵⁶
- Avoid using scientific jargon. Most individuals accessing the website would certainly be predominately lay people who would not be expected to understand formal healthcare terminology.
- Avoid having automatic links to other websites popping up in the consumer's computer when they are accessing your website. This irritating and intrusive approach⁵⁷⁻⁵⁹ can create a detrimental impression in the consumer's mind that this website is more interested in its own revenues than providing quality health to consumers.
- Provide references where the consumer can go to find more information about a website. The website should in fact encourage consumers to check with references to ensure that ethical standards are maintained by this website.
- Prominently display the organisation's compliance with an accepted Code of Ethics, such as Health Internet Ethics or Hi-Ethics,^{60,61} on the website home page. An ethics code can reassure consumers regarding the ethical nature of a website.

References

- 1 Kotler, P. (2003) *Marketing Management*, 11th edn., Prentice Hall, Upper Saddle River.
- 2 Kalin, S. (1999) 'Choose your medicine', *CIO Web Business Magazine*, http://www.cio.com/archive/webbusiness/060199_drugs.html, pp.1-8.
- 3 Leckenby, J.D. and Hong, J. (1998) 'Using reach/frequency for web media planning', *Journal of Advertising Research*, 38(1), 7-20.
- 4 Anonymous (2003) 'Internet usage on the rise, with more consumers logging on daily', 2 July, www.consumerinterestbarometer.us/press.htm.
- 5 Goldhagen, H. (1998) 'This is medicine? Alternative medicine web sites', *Infectious Medicine*, 15(5), 309-313.
- 6 DeLuca, J.H. and Enmark, R. (2000) 'E-health: The changing model of healthcare', *Frontiers of Health Services Management*, 17(1), 3-15.

- 7 Chin, R. (2000) 'The internet: Another facet to the paradigm shift in healthcare',
Singapore Journal of Medicine, 41(9), 426–429.
- 8 Deluca, J.H. and Enmark, R. (2001) 'The latest revolution', Health Forum Journal, 44(1),
22–25.
- 9 Sanchez, A.O. and Martin Fuentes, M.T. (2002) 'Consumer orientation of public hospital
websites in Spain', International Journal of Medical Marketing, 3(1), 20–30.
- 10 Landro, L. (2000) 'Web health groups ponder how to set universal standards', New York
Times (Eastern edn.) 2 November, B1.
- 11 Risk, A. and Dzenowagis, J. (2001) 'Review of internet health information quality
initiatives', Journal of Medical Internet Research, 3(4), 28.
- 12 Anonymous (2000) 'Sizing healthcare eCommerce', Forrester Research (January)
<http://www.forrester.com/>
- 13 Lomangina, K. (1999) 'Point and click prescriptions: Pros and cons of online pharmacies
and guides for use', Internet Medicine, 4(5), 1, 3, 4.
- 14 Weschler, J. (2000) 'Prices, promotion, politics', Pharmaceutical Executive, 20(1), 24–
30.
- 15 Gallanis, P.J. (1999) 'E-tailers and retailers work to concoct perfect prescription', DSN
Retailing Today, 38(23), p. 60.
- 16 Manhal-Baugus, M. (2001) 'E-therapy: Practical, ethical and legal issues',
Cyberpsychology & Behavior, 4(5), 551–563.
- 17 Chandra, A., Pettry, C.E. Jr and Paul, D.P. III (2004) 'Telemedicine from a
macromarketing viewpoint: A critical evaluation with proposed licensing strategies',
Journal of NonPro.t and Public Sector Marketing, forthcoming.
- 18 Mack, J. (2000) 'You have a brochure on the web. Now what?', Pharmaceutical
Executive, March, 16–22.
- 19 Anonymous (2000) 'Internet code of ethics', Trustee 53(7), 4, 6.
- 20 Liebman, M. (2002) 'For online privacy compliance, HIPAA rules', Medical Marketing
& Media, May, 100–106.
- 21 Fried, B.M., Weinreich, G., Cavelier, G.M. and Lester, K.J. (2000) 'E-health:
Technology revolution meets regulatory constraint', Health Affairs, 19(6), 124–131.
- 22 Deluca, J.H. and Enmark, R. (2001) op. cit.
- 23 Goldman, J. and Hudson, Z. (2000) 'Virtually exposed: Privacy and e-health', Health
Affairs, 19(6), 140–148.
- 24 Liebman, M. (2000) 'Down-to-earth internet ethics codes set standards for cyberspace',
Medical Marketing & Media, June, 100–102.
- 25 Mack, J. (2000) op. cit.
- 26 Adams, M. (2002) 'Gaining trust, protecting privacy', Pharmaceutical Executive,
December, 46–49.
- 27 Deluca, J.H. and Enmark, R. (2001) op. cit.
- 28 Fried, B.M. (2000) op. cit.

- 29 Liebman, M. (2000) op. cit.
- 30 Weschler, J. (2001) 'Setting eHealth standards is top-of-mind for MCOs', *Managed Healthcare Executive*, 11(3), 47, 49–50.
- 31 Fried, B.M. (2000) op. cit.
- 32 Hagerty, J.R. and Berman, D.K. (2003) 'New battleground in web privacy war: Ads that snoop', *Wall Street Journal*, 27 August, A1, A8.
- 33 Fried, B.M. (2000) op. cit.
- 34 Weschler, J. (2001) op. cit.
- 35 Boulding, M.E. (2000) 'Self-regulation: Who needs it?', *Health Affairs*, 19(6), 132–139.
- 36 Peeples, D.K. (2002) 'Instilling consumer confidence in e-commerce', *S.A.M. Advanced Management Journal*, 67(4), 26–31.
- 37 Adams, M. (2002) op. cit.
- 38 Marshall, K.P. (1999) 'Has technology introduced new ethical problems?', *Journal of Business Ethics*, 19(1), 81–90.
- 39 Crabtree, P. and Dibble, S. (2003) 'Tijuana alternative clinics frustrate regulators', *San-Diego Tribune*, 24 February, A1.
- 40 Gillis, J. (2003) 'A rush of products ready (or not) to fight SARS', *Washington Post*, 10 May, E01.
- 41 Weschler, J. (2000) op. cit.
- 42 Gritzmacher, D., Broussard, A. and Cody, D. (2003) 'The new realities of money and politics in complementary/alternative medicine', *Business and Health Administration Association Proceedings*, 153–158.
- 43 Kanter, L. (1999) 'Natural cures: Herbs are huge, but do they work?' *Los Angeles Business Journal*, 18 January, 2.
- 44 Razzouk, N., Seitz, V. and Luus, S.P. (2002) 'Quackery in healthcare: Implications for marketers', *From Art to Technology: Opportunities in Marketing Research and Education*, *Atlantic Marketing Association Proceedings*, 30–33.
- 45 West, D.J. Jr (2003) 'Integrative healthcare at inner harmony: The convergence of Eastern and Western thinking about health', *Business and Health Administration Association Conference Proceedings*, 333–337.
- 46 Kearney, A.T. (1997) *Maximizing Health in the Next Millennium: A Prescription for Increased Shareholder research?*, *Medical Marketing & Media*, 35(2), 96–98, Value, Kearney, Chicago.
- 47 Frank, R.G. (2003) 'Government commitment and regulation of prescription drugs', *Health Affairs*, 22(3), 46–48.
- 48 Iglehart, J.K. (2003) 'Good science and the marketplace for drugs: A conversation with Jean-Pierre Garnier', *Health Affairs*, 22(4), 119–127.
- 49 Ibid.

- 50 Eagle, L. and Kitchen, P. (2002) 'Direct consumer promotion of prescription drugs: a review of the literature and the New Zealand experience', *International Journal of Medical Marketing*, 2(4), 293–310.
- 51 Applequist, K. (1999) 'OnlineDrugs.com: Legal issues raised by online pharmacies', *Drug Benefit Trends*, 11(5), 28, 37.
- 52 Attas, D. (1999) 'What's wrong with 'deceptive' advertising?', *Journal of Business Ethics*, 21(1), 49–59.
- 53 Kahn, C. (2001) 'How the media influences women's perceptions of healthcare', *Marketing Health Services*, 21(1), 13–17.
- 54 Sibley, C.E. (2000) 'Scattershot studies, self-serving sponsors: Can't we get better DTC advertising research?', *Medical Marketing & Media*, 35(2), 96-98, 100.
- 55 Fischman, J. and Melton, M. (1999) 'Drug bazaar', *US News & World Report*, 126(24), 58.
- 56 Basara, L.R. and Juergens, J.P. (1994) 'Patient package insert readability and design', *American Pharmacy*, August, 48–53.
- 57 Edwards, S.M., Li, H. and Lee, J-H (2002) 'Forced exposure and psychological reactance: Antecedents and consequences of the perceived intrusiveness of pop-up ads', *Journal of Advertising*, 31(3), 83–92.
- 58 Liu, Y. and Shrum, L.J. (2002) 'What is interactivity and is it always a good thing? implications of definition, person and situation for the influence of raised by online pharmacies', *interactivity on advertising effectiveness*, *Journal of Advertising*, 31(4), 53–64.
- 59 Stern, B.B., Zinkham, G.M. and Holbrook, M.B. (2002) 'Netvertising image communication model (NICM) and construct definition', *Journal of Advertising*, 31(3), 15–27.
- 60 Liebman, M. (2000) op. cit.
- 61 Fisher, S.E. (2000) 'Online healthcare contends with fraud', *InfoWorld*, 22, 27.